IN THE CLAIMS:

Cancel claims 1-39. Insert 40-78.

40. (New) A method for determining the operating parameters of single fuel cells or of short stacks of fuel cells, wherein in parallel with the fuel cell plane planar heating elements are pressed against one or preferably both exterior surfaces of the single cell or the short stack, a predetermined temperature T_H is set for the fuel cell by means of the heating elements and at least one operating parameter of the fuel cell is measured as a function of the chosen temperature T_H.

41. (New) A method according to claim 40, wherein a temperature curve or a temperature gradient over time is applied under which different operational states of the fuel cell, such as start-up, change of load or continuous operation, are simulated.

42. (New) A method according to claim 40, wherein by partitioning of the planar heating elements into individual, separately controllable segments a two-dimensional temperature distribution or temperature gradient is applied.

43. (New) A method according to claim 40, wherein by a cyclical application of extreme temporal and/or areal temperature gradients an accelerated aging process of the fuel cell is simulated.

44. (New) A method according to claim 40, wherein electrochemical parameters of the fuel cell, which are obtained from simulation models or

model computations, are compared to measured values of these parameters and the simulation models are adapted accordingly.

45. (New) A method according to claim 40, wherein the temperature T_Z in the fuel cell and the temperature T_H in the heating element or in the individual heating element segments are measured and the temperature T_H in the heating element is regulated in such a way that the heating power of an adjacent neighbour cell is simulated.

46. (New) A method according to claim 40, wherein the temperature T_Z of the fuel cell is additionally set or varied by applying or removing exterior insulating elements or by active cooling elements.

47. (New) A device for determining the operating parameters of single cells or of short stacks of fuel cells, wherein in parallel with the fuel cell plane planar heating elements are placed at one or preferably both exterior surfaces of the single cell or the short stack, which heating elements are connected to a control and evaluation unit for setting a predetermined temperature.

48. (New) A device according to claim 47, wherein temperature sensors are located in each single cell and in the heating elements, which sensors are connected to a control loop in the control and evaluation unit.

49. (New) A device according to claim 47, wherein each of the heating elements is partitioned into multiple, separately controllable segments.

50. (New) A device according to claim 49, wherein thermally insulating elements are placed between the heating element segments located at an exterior surface of the single cell.

51. (New) A device according to claim 47, wherein the heating elements or their segments are provided with detachable, exterior insulating elements.

52. (New) A device according to claim 51, wherein the exterior insulating elements and/or the insulating elements located between the heating element segments are provided with active cooling elements, for instance heat exchangers for a cooling medium.

53. (New) A device according to claim 47, wherein a thin thermally insulating intermediary layer is placed between the exterior surfaces of the single cell and the heating elements or heating element segments.

54. (New) A device according to claim 53, wherein a current collector with areally distributed contact sites is located in the insulating intermediary layer.

55. (New) A device according to claim 54, wherein the current collector is partitioned into a number of separately contacted segments.

56. (New) A device according to claim 47, wherein a clamping mechanism is provided for pressing the heating elements against the exterior surfaces of the single cell or the short stack and/or against the

exterior insulation elements and/or the thermally insulating intermediary layer.

57. (New) A device according to claim 56, wherein the hermetic seal for the gas connections and the electrical connections of the single cell or the short stack are provided by means of the pressure exerted by the clamping mechanism.

58. (New) A device according to claim 47, wherein the control and evaluation unit comprises means for determining at least the temperature, the current and voltage values, the composition of the process gases, the pressure of the process gases, and the useful life of the fuel cell.

59. (New) A method for cooling hot process gases, which arise in the operation of fuel cells or the testing of fuel cell system components, such as reformers, mixing and conditioning systems or catalysers, in a fuel cell testing station, wherein the hot process gases are fed into at least one heat exchanger unit to lower the temperature in the process gas before entry of the process gas into an exhaust vent of the testing station, and wherein the waste heat of the heat exchanger unit is carried off with the ambient air flowing into the exhaust vent.

60. (New) A method according to claim 59, wherein the heat exchanger unit is designed as an air/gas heat exchanger and is directly cooled by the ambient air flowing into the exhaust vent.

61. (New) A method according to claim 59, wherein the heat exchanger unit is designed as a coolant/gas heat exchanger and a cooling unit through which the coolant flows is cooled by the ambient air flowing into the exhaust vent.

62. (New) A method according to claim 59, wherein a surplus of the ambient air is provided for diluting the process gases.

63. (New) A method according to claim 59, wherein the waste gas in the exhaust vent is fed into a heat recovery unit.

64. (New) A device for cooling hot process gases, which arise in the operation of fuel cells or the testing of fuel cell system components, such as reformers, mixing and conditioning systems or catalysers, in a fuel cell testing station, wherein at least one heat exchanger is located in the hot process gas flow, which lowers the entry temperature of the process gas before it enters an exhaust vent, and wherein a device for cooling the heat exchanger by means of the ambient air flowing into the exhaust vent is provided.

65. (New) A device according to claim 64, wherein the heat exchanger is designed as an air/gas heat exchanger which is located in or at the inlet of an exhaust hood of the exhaust vent.

66. (New) A device according to claim 64, wherein the heat exchanger is designed as a coolant/gas heat exchanger which is connected to a

cooling unit located in the exhaust vent via a coolant circulating in a coolant loop.

67. (New) A device according to claim 66, wherein an electrical load connected to the fuel cell or a fuel cell component, which has to be cooled, is connected to a cooling unit in the exhaust vent via a cooling loop.

68. (New) A device according to claim 64, wherein a catalyser and/or a condensate or water separator is positioned in the exhaust vent.

69. (New) Fuel cell stacks of medium- or high-temperature fuel cells, which are provided with clamping elements acting on both ends of the fuel cell stack in order to compensate the interior operating pressure and/or hermetically seal the individual fuel cells against each other, wherein a thermally insulating element transmitting the clamping force is placed between the ends of the fuel cell stack and the respective clamping element.

70. (New) Fuel cell stack according to claim 69, wherein the sides of the fuel cell stack are provided with an exterior insulation detached from the clamping elements.

71. (New) Fuel cell stack according to claim 70, wherein the exterior insulation of the stack laterally embraces the two insulating elements at the stack ends.

72. (New) Fuel cell stack according to claim 70, wherein further fuel cell components, such as high-temperature heat exchangers, reformers and/or burners, are contained in a space formed by the exterior insulation and the insulating elements at the stack ends.

73. (New) Fuel cell stack according to claim 69, wherein at least one of the thermally insulating elements at the stack ends is provided with openings for the passage of inlet and outlet pipes for the process gases involved in the operation of the fuel cells.

74. (New) Fuel cell stack according to claim 69, wherein the clamping elements are held under tension against each other by tensioning screws, with at least one clamping element being spring-loaded by spring elements, preferably helical springs, which are located outside the insulation of the fuel cell stack.

75. (New) Fuel cell stack according to claim 74, wherein the clamping elements and the tensioning screws form a mechanical frame which functions as a housing and serves as an interface for the electrical connections.

76. (New) Fuel cell stack according to claim 69, wherein the thermally insulating elements and, if present, the exterior insulation are made of porous, ceramic material, for instance bound pyrogenic silicic acid.

77. (New) Fuel cell stack according to claim 69, wherein the essentially pressure-resistant, thermally insulating elements consist of a metallic grid or supporting structure.

78. (New) Fuel cell stack according to claim 69, wherein the fuel cell stack comprises solid oxide fuel cells or molten carbonate fuel cells.